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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/795,930	03/08/2004	Karl Scheller	ALLEG-041PUS	1800

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EXAMINER	
WHITTINGTON, KENNETH	

ART UNIT	PAPER NUMBER
2862	

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/795,930	SCHELLER ET AL.	
	Examiner	Art Unit	
	Kenneth J. Whittington	2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 6-9* is/are rejected.

7)☒ Claim(s) *2-5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The Amendment filed July 27, 2006 has been entered and considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is noted that the entire disclosure of Applicants' invention is to create a tracking signal to match or closely match that of the magnetic field signal using the disclosed circuitry using a pair of DA converters. Nowhere is there any disclosure of bringing the magnetic field signal to the same level as the tracking signal as is recited in this claim using a pair of DA converters as required in the claim. Such a feature is beyond the scope of

and directly contrary to the disclosure as filed. Accordingly, the feature is not enabled to a person having ordinary skill in the art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' Admitted Prior Art (AAPA) (as outlined in FIGS. 1 and 2 and page 2, line 18 to page 4,

line 8 of the present disclosure) in view of Smith et al. (US 5,451,946), hereinafter Smith.

Regarding claim 1, AAPA teaches a proximity detector, comprising:

a magnetic-field-to-voltage transducer for providing a magnetic field signal indicative of an ambient magnetic field (See AAPA FIG. 1, item 14);

a peak detector responsive to said magnetic field signal for providing a tracking signal which substantially follows at least a portion of said magnetic field signal (See FIG. 1, note items 20, 24, 28, 36 and 40 and see tracking signal PEAKDAC in FIG. 2), wherein said peak detector comprises a digital to analog converter (DAC) (See FIG. 1, item 28).

However, AAPA does not explicitly teach coarse and fine DACs and a summing circuit. Smith discloses an apparatus and method for producing an analog output from a digital input comprising:

a first DAC providing a first output signal having a first step size (See Smith FIG. 3, item 315 and FIG. 4, item 311, note step size);

a second DAC providing a second output signal having a second step size larger than said first step size (See FIG. 3,

item 306 and FIG. 4, item 307, note step size is larger than fine step size); and

a summation circuit for providing a signal output representative of the sum of the first and second output signals (See FIG. 3, item 309).

It would have been obvious at the time the invention was made to modify the AAPA to incorporate the coarse/fine DAC of Smith into the apparatus of AAPA to replace the DAC 28. Such combination providing the feature that the output of the Smith DAC creates the tracking signal (PEAKDAC) of AAPA. One having ordinary skill in the art would have been motivated to do so to provide a DAC for an apparatus that exhibits good excess glitch energy and settling performance and provides good linearity (See Smith col. 1, lines 41-43).

Regarding claim 6, AAPA in view of Smith teaches a POSCOMP comparator for providing a POSCOMP signal which changes state when said magnetic field signal varies from said tracking signal by a predetermined amount, wherein and said tracking signal is forced towards said magnetic field signal in response to changes in state of said POSCOMP signal (See AAPA page 2, lines 18 to col. 4, line 8 of present disclosure).

Regarding claim 7, AAPA in view of Smith teaches the POSCOMP comparator is responsive to a threshold signal that

differs from said tracking signal by a predetermined amount (See same portion of AAPA).

Regarding claim 8, AAPA in view of Smith teaches the tracking signal being brought to substantially the same level as said magnetic field signal in response to changes in state of said POSCOMP signal (See same portion of AAPA).

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Allowable Subject Matter

Claims 2-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication
14 of allowable subject matter: they have allowable subject matter for the same reasons as contained in the prior Office Action.

Response to Arguments

Applicant's arguments filed July 27, 2006 have been fully considered but they are not persuasive. Accordingly, the rejections stand.

21 Regarding the enablement rejection, the claim was rejected under 112, 1st paragraph, because the present application did not enable one having ordinary skill in the art how the "magnetic

signal is brought to substantially the same level as said tracking signal in response to changes in state of said POSCOMP signal." Applicant responded but failed to show where in the present application a proximity sensor with a pair of DA converters having different sizes is used in the manner as recited in claim 9 and reprinted above. Rather, the only place Applicant states as being enabling for this claim is the background of the invention of the present application wherein another application was incorporated by reference, i.e., to App. 10/156,684. Applicant pointed particularly to FIGS. 10 and 11 and the disclosure related thereto. However, this portion of the '684 application has a different structure and operation as compared with the present application and further this circuit has no DA converters. Because the '684 enables a circuit without DA converters to bring the magnetic signal to the level of the tracking signal, the '684 cannot enable to one having ordinary skill in the art the features recited in claim 9 having a circuit with two DA converters having different step sizes used to bring the magnetic signal to the level of the tracking signal without some undue experimentation regarding the placement and operation of the DA converters in the circuit. Accordingly, the rejection stands.

Regarding the obviousness rejections of claims 1 and 6-8, Applicants first asserts that because AAPA and Smith are directed to different problems, one having ordinary skill in the art would not look to Smith for a solution. See Remarks page 8 of the Amendment. The AAPA is a proximity detector circuit using a DA converter to create an analog tracking signal. Smith teaches an improved DA converter for creating an analog signal having the advantages of low glitch energy and good linearity performance, and improves spurious response and IM performance in the design of such devices (See Smith col. 1, line 41 to col. 2, line 2). Thus, even though the AAPA concerns a proximity sensor and Smith concerns a DA converter, the crux of the AAPA is the operation of the DA converter and one having ordinary skill in the art would look to Smith for guidance to improvements relating to the DA converter of the proximity sensor of the AAPA.

Regarding the second argument of Applicant wherein Applicant asserts that the "DACs of Smith et al. would not be used to provide larger steps as in FIG. 5 of the present application", it is noted that the features of FIG. 5 are not claimed. Furthermore, Smith does teach an improvement of the AAPA, that is, to use a pair of different step-sized DA

converters in lieu of a single DA converter, to create a tracking signal, as noted in the rejection above.

In view of the forgoing, the rejections stand.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth J. Whittington whose telephone number is (571) 272-2264. The examiner can normally be reached on Monday-Friday, 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kenneth J Whittington
Examiner
Art Unit 2862

kjw

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